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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/929,009	08/15/2001	Chi-Cheng Lin	BHT-3111-192	8080

7590 12/24/2003
DOUGHERTY & TROXELL
SUITE 1404
5205 LEESBURG PIKE
FALLS CHURCH, VA 22041

EXAMINER

CHEN, TIANJIE

ART UNIT	PAPER NUMBER
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2652

DATE MAILED: 12/24/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

TS

Office Action Summary

Application No.

09/929,009

Applicant(s)

LIN, CHI-CHENG

Examiner

Tianjie Chen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☒ Claim(s) 12-15 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

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Non-Final Rejection

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

2. Claim 9 is objected to because of the following informalities:

In claim 9, line 8; "compar" should be changed to --compare--.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 5, 6, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA) in view of Morikawa et al (US 5,267,105).

With regard to claim 1, AAPA shows a cover-locking mechanism in Figs. 1 and 2 for an optical storage carrier player, the cover-locking mechanism comprising: a stopping switch and a cover-lifting switch (Specification p. 2, lines 4-6) for receiving actuating signals from a user; a cover disposed on the carrier player and selectively actuated to enter an open state for placing or removing a carrier 11; a driving unit 13 disposed on the carrier player for supporting and rotating a optical storage carrier 11

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within the carrier player; a locking means disposed on the carrier player for selectively engaged with or separated from the cover.

AAPA does not show a controller coupled to the switch and the driving unit for detecting a rotational speed of the driving unit, the controller comprising: a rotation speed detection module for detecting the rotation speed of the driving unit; a comparative module coupled to the detection module for comparing the rotational speed with a pre-determined speed; wherein the locking means is actuated by the controller to be separated from the cover to make the cover enter the open state when the actuating signal is presented at the switch and the rotation speed is lower than the pre-determined speed.

Morikawa et al shows a disk drive, wherein a controller coupled to a switch 32 (Column 7, lines 39-40) and the driving unit for detecting a rotational speed of the driving unit to determining if it is stopped (Fig. 5, step 517), the controller comprising: a rotation speed detection module for detecting the rotation speed of the driving unit (Fig.5, step 517); a comparative module coupled to the detection module for comparing the rotational speed with a pre-determined speed to determine if it is stopped or not (Fig. 5, step 517); wherein the drive is ready for ejection when the actuating signal is presented at the switch and the rotation speed is lower than the pre-determined speed.

It would have been obvious at the time the invention was made to on of ordinary skill in the art to replace two switches in AAPA's device with one switch taught by Morikawa et al. The rationale is as follows: in AAPA's device, two switches are used by user. Except the completeness of the structure, there is also risk hidden in operation since if the user touches the cover-opening switch too early, it may

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causes damage of the reading head and disk. Morikawa et al's structure ensures that the ejection is done after the disk has been fully stopped; it protects the head and disk. One of ordinary skill in the art would have been motivated to replace two-switch structure by Morikawa et al's one-switch structure thus protecting the head and disk. In thus constructed device, at the time for ejection, the locking means is actuated by the controller to be separated from the cover to make the cover enter the open state when the actuating signal is presented at the switch and the rotation speed is lower than the pre-determined speed.

With regard to claim 2, AAPA shows in Fig. 1 a cover-engaging unit capable of selectively driving the locking means to release the cover to the open state.

With regard to claim 5, in the above constructed device, the cover can be actuated to enter a locked up state that capable of preventing the cover from being opened when the rotation speed of the carrier is higher than the predetermined speed.

With regard to claim 6, Morikawa et al further shows that the controller further includes an inherent signal generation module, capable of generating a speed-reduction signal transmitting to the driving unit for reducing its rotation speed as the rotation speed is higher than a predetermined speed (column 8, lines 30-34) and AAPA shows the actuating signal is presented at the switch as stated in rejection on claim 1.

With regard to claim 8, Official Office is taken: at the time the invention was made, it is a widely used technique that a disk drive, such as DVD player, is remotely controlled. Applicant does not disclose particular structure for remotely control. One of ordinary skill in the art would have been expecting that a remotely control method could be involved in the device.

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4. Claims 3, 4, 7, and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Morikawa et al as applied to claim 2 above, and further in view of Ito (US 3,938,185).

With regard to claim 3, AAPA shows a cover-engaging unit, which has a slidable protruding block, the protruding block is engaged with the cover when the cover is closed and the protruding block is separated from the cover when the cover is lifted; but fail to show a solenoid for control.

However, Ito shows a locking mechanism in Fig. 4 including a solenoid valve and the locking means is a slidable protruding block, the protruding block is engaged with the cover when the solenoid valve is power-off, and the protruding block is separated from the cover when the solenoid valve is power-on.

It would have been obvious at the time the invention was made to one of ordinary skill in the art to replace locking mechanism in AAPA's device with the solenoid and slidable block taught by Ito in AAPA and Morikawa et al's device. The rationale is as follows: in AAPA and Morikawa et al's device, the locking mechanism is controlled by the control signal, and the control signal can be used to control a solenoid 7 (Fig. 2; column 5, lines 7-10); but without detailed structure of actuating the locking mechanism. Ito shows a locking mechanism, wherein the locking mechanism is actuated by a solenoid with a slidable block. One of ordinary skill in the art would have been motivated to replace the locking mechanism with the one taught by Ito, thus making the locking mechanism being actuated by a control signal through a solenoid.

With regard to claim 4, in the above constructed device, the locking means is an electromagnet, the electromagnet is engaged with the cover when the electromagnet is

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power-on, and the electromagnet is separated from the cover when the electromagnet is power-off.

With regard to claim 7, in the above constructed AAPA, Morikawa et al, and Ito's device, the signal generation module, capable of generating an output signal to make the cover enter the open state as the rotation speed is lower than a predetermined speed and the actuating signal is presented at the switch.

With regard to claim 9, the above constructed AAPA. Morikawa et al, and Ito's device includes the method for controlling an open state and a locked state of a cover installed on an optical storage carrier player, the carrier player having a driving unit for supporting and rotating an optical storage carrier, a locking means for selectively engaged with or separated from the cover, and a controller coupled to the driving unit and the locking means, the method comprising following steps of:(a) presenting an actuating signal to actuate the controller to detect a rotation speed of the driving unit and compare the rotation speed with a predetermined speed; (b) generating a first control signal by the controller transmitting to the locking means to make the locking means engaged with the cover when the detected rotation speed is higher than the predetermined speed; and (c) generating a second control signal the controller transmitting to the locking means to make the locking means separated from the cover when the detected rotation speed is lower than the predetermined speed to make the cover to enter the open state.

With regard to claim 10, the above constructed AAPA. Morikawa et al, and Ito's device includes that the controller generates a speed reduction signal transmitting to the driving unit to reduce the rotation speed when the detected rotation speed is higher than the predetermined speed and the actuating signal is presented.

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With regard to claim 11, the above constructed AAPA. Morikawa et al, and Ito's device includes the actuating signal of step (a) is remotely presented through a switch.

Allowable Subject Matter

5. Claims 12-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

- With regard to claim 12, the above constructed AAPA. Morikawa et al, and Ito's device includes controller provides rotation speed signal; **but fails to show** that the driving unit of step (a) is detected by transforming a sine wave signal generated by the driving unit into a series of pulse signal with intervals.
- With regard to claim 15, the above constructed AAPA. Morikawa et al, and Ito's device includes controller provides rotation speed signal; **but fails to show** the speed-reduction signal is a series of pulse signal with a longer interval corresponding to a reduced rotation speed lower than the predetermined speed.
- Applicant asserts that this system would ensure the lifting up of the CD cover being under a safe state to reduce time for lifting up (Specification, p. 2, lines 26-28).

Conclusion

6. The prior art made of record in PTO-892 Form and not relied upon is considered pertinent to applicant's disclosure.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tianjie Chen whose telephone number is (703) 305-7499. The examiner can normally be reached on 8:00-4:30, Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is (703) 746-6037.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

A handwritten signature in black ink, appearing to read "Chen Tianjie".

Tianjie Chen
Primary Examiner
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